

Pillsbury Milling Complex,
Concrete Elevators
Second Street S.E. between
S.E. Third Avenue and S.E. Fifth Avenue
Minneapolis
Hennepin County
Minnesota

HABS No. MN-29-5-D

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Buildings Survey
National Park Service
Rocky Mountain Regional Office
Department of the Interior
P.O. Box 25287
Denver, Colorado 80225

HISTORIC AMERICAN BUILDINGS SURVEY

PILLSBURY MILLING COMPLEX,
CONCRETE ELEVATORS

HABS No. MN-29-5D

Location: Second Street S.E. between S.E. Third Avenue and
S.E. Fifth Avenue, Minneapolis, Hennepin County,
Minnesota

USGS Minneapolis South Quadrangle, Universal
Transverse Mercator Coordinates: Zone 15;
480100:4981060; 480320:4980940; 480260:4980800;
480040:4980940

Present Owner: The Pillsbury Company
Pillsbury Center
200 South Sixth Street
Minneapolis, Minnesota 55402

Present Occupant: The Pillsbury Company

Present Use: Grain storage

Significance: The Concrete Elevators are part of the larger
Pillsbury Milling Complex. They are situated in
the heart of the East Side milling district and
serve the Pillsbury "A" Mill and South "A" Mill.
The elevators were among the earliest large scale
grain storage facilities of reinforced concrete
using exposed circular bin construction to be
built in the area. The large bins were
constructed of reinforced concrete, an early use
of this material for grain elevator construction.
Slip forms were used to permit the use of a
continuous concrete pour in building the
structure.

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of erection: 1914; 1915-1916
2. Architect: Barnett & Record Engineers and Contractors,
Minneapolis, Minnesota.
3. Original and subsequent owners: Pillsbury Flour Mills Company,
now The Pillsbury Company.
4. Builder, contractor, suppliers: Barnett & Record Engineers and
Contractors, Minneapolis, Minnesota.

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5. Original plans and construction: Original plans for the Concrete Elevator and Concrete Elevator Annex are on file at The Pillsbury Company, Minneapolis, Minnesota.
6. Alterations and additions: Building has not been significantly altered.

B. Historical Context:

The Concrete Elevators are an integral part of the Pillsbury Milling Complex. They were built to provide additional grain storage for increases in the milling capacity of the Pillsbury "A" Mill and the construction of the South "A" Mill in 1916. The Concrete Elevators were constructed in two stages. The easterly section, called the Concrete Elevator, was erected in 1914. This section contains 40 storage tanks with an approximate capacity of 1.8 million bushels of grain. The westerly section, called the Concrete Elevator Annex, was completed in 1916. This section contains 24 storage tanks with an approximate capacity of 1.1 million bushels.

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural Character: The Concrete Elevators were innovative structures for their time in both the materials used and the method of construction. Earlier grain elevators were rectangular structures constructed of heavy timber. This method of construction was superseded by tile construction which afforded greater fire resistance and lower maintenance. However, with advances in reinforced concrete technology, the use of concrete for elevator construction became the preferred material for larger elevators after about 1910. The introduction of slip forming techniques and continuous pouring of the concrete produced a monolithic structure without joints that was fireproof and required little maintenance. The firm of Barnett & Record Engineers and Contractors pioneered this type of construction in Minneapolis.
2. Condition of Fabric: The elevators appear to be in good condition. They are in active use for storage of grain and have been well maintained.

B. Description of Exterior:

1. Overall Dimensions: The original Concrete Elevator (1914) is 104' x 260' and consisted of 40 individual storage tanks 26' in diameter by 100' high. A head house 34' x 40' x 75' high is

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located on top of the structure at the westerly end. A conveyor monitor 78' x 260' x 14' high is located on top of the remainder of the structure. Two conveyor bridges spanning 98' connect the head house with the Tile Elevator to the south. The Concrete Elevator Annex at the west end of the original concrete Elevator (1915-1916) was 104' x 156' and consisted of 21 storage tanks 100' high. Nineteen of the storage tanks are 26' in diameter and two are 20' in diameter. A conveyor monitor 78' x 148' x 14' high is located on top of the structure.

2. Foundations: The foundations are of 24" thick reinforced concrete.
3. Walls: The walls of the elevators are of 5" thick reinforced concrete. The conveyor monitors and head house walls are of reinforced concrete construction.
4. Structural System, Framing: The storage tanks are of monolithic reinforced concrete load bearing construction. The conveyor monitors and head house are framed with reinforced concrete columns and beams supporting reinforced concrete floor and roof slabs.
5. Openings:
 - a. Doorways and doors: Exterior service doors are flush panel steel doors and frames.
 - h. Windows and shutters: The original windows were 3'-6" x 5'-6" steel industrial sash. The windows have been altered to 3'-6" x 3'-6" steel sash with a 2'-0" x 3'-6" corrugated metal panel below.
6. Roof: The roof is of built-up pitch and gravel construction over a reinforced concrete flat slab.

C. Description of Interior:

1. Floor Plans: The main purpose of the facility is for storage, weighing and distribution of grain to the Pillsbury "A" Mill and South "A" Mill. The large storage tanks are circular in plan, terminating in a tapered bin at the bottom of each tank. The grain is delivered to the elevator by truck and/or train. Grain is dumped into a hopper located at grade and is elevated by vertical conveyors to the top of the head house. In the head house the grain is weighed on a 2,000 bushel scale and then moved via horizontal belt conveyors located in the roof top monitor to the individual storage tanks. As grain is needed in

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the mills, it is removed from the bottom of the tanks onto a horizontal belt conveyor system located in the basement. The grain is then moved once again to the top of the head house via vertical conveyors where it is weighed once more and then transported via conveyors through the two overhead bridges to the Tile Elevator and hence to the mills.

2. Flooring: All floors in the building are of concrete.
3. Openings:
 - a. Doorways and doors: Interior doorways and doors are of steel flush panel construction.
 - b. Windows: Windows are fireproof steel industrial sash with concrete sills and jams.
4. Hardware: All doors have metal hinges and door locks.
5. Mechanical Equipment:
 - a. Lighting: Incandescent lighting of enclosed explosion proof design is used throughout the structure.
 - b. Vertical transportation: A Humphrey man lift is provided in the center of the complex for access to the head house. A stairway is also provided in this location.

D. Site:

1. General setting and orientation: The building parallels Second Street S.E. on the north side of the Pillsbury Milling Complex. Railroad trackage is located directly adjacent to the south side of the building. Two overhead conveyor bridges connect the elevators to the Tile Elevator and Cleaning House located south and west of the building. Warehouse No. 2 is located directly east of the building. The site slopes down gently about 10 feet from west to east.

PART III. SOURCES OF INFORMATION

A. Original Architectural Drawings:

Original architectural drawings for the Concrete Elevator (1914) and the Concrete Elevator Annex (1915-1916) are on file at The Pillsbury Company, Pillsbury Center, 200 South Sixth Street, Minneapolis, Minnesota 55402. The collection includes floor plans, elevations and sections prepared by The Barnett & Record Company.

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B. Early Views:

General views of the Concrete Elevators are in the collection of the Minnesota Historical Society.

C. Bibliography:

1. Primary and unpublished sources:

Pillsbury Engineering Department, Construction drawings for Concrete Storage Tanks (Contract No. 1166), dated 1914 prepared by The Barnett & Record Company.

Pillsbury Engineering Department, Construction drawings for Minneapolis Concrete Annex (Contract No. 1172), dated 1915, prepared by The Barnett & Record Company.

History of Pillsbury A-Mill Complex, Minneapolis, Minnesota, by Richard L. Ferrell, unpublished manuscript, 1979, revised 1987.

2. Secondary and published sources:

Fieldhouse, William R., History of the Flour Milling Industry of Minneapolis, M.A. Thesis, University of Minnesota, 1916.

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Kuhlman, Charles B., The Development of Flour Milling in Minneapolis, M.A. Thesis, University of Minnesota, 1920.

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Sanborn Insurance Map 1912-1941.

Prepared by:
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PART IV: PROJECT INFORMATION

This project was prepared as a class project for Architecture 5143, Historic Building Research and Documentation, a class offered in the School of Architecture and Landscape Architecture at the University of Minnesota, Minneapolis, Minnesota. The class project was prepared under the direction of Professor Foster W. Dunwiddie and was funded by a grant from the State Historic Preservation Office of the Minnesota Historical Society, Saint Paul, Minnesota. Historical data was compiled by Foster W. Dunwiddie in December 1987.